

Refrigeration & Air-Conditioning MCQ Question Answer

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Question: 1. At lower temperatures and pressures, the latent heat of vaporisation of a refrigerant

- Option A. Decreases
- Option B. Increases
- Option C. Remain same
- Option D. Depends on other factors

Question: 2. The relative coefficient of performance is equal to

- Option A. (Theoretical C.O.P.) / (Actual C.O.P.)
- Option B. (Actual C.O.P.) / (Theoretical C.O.P.)
- Option C. (Actual C.O.P.) × (Theoretical C.O.P.)
- Option D. None of these

Question: 3. Critical temperature is the temperature above which

- Option A. A gas will never liquefy
- Option B. A gas will immediately liquefy
- Option C. Water will evaporate
- Option D. Water will never evaporate

Question: 4. The horizontal and non-uniformly spaced lines on a psychrometric chart indicates

- Option A. Dry bulb temperature
- Option B. Wet bulb temperature
- Option C. Dew point temperature
- Option D. Specific humidity

Question: 5. During sensible cooling of air, specific humidity

- Option A. Remains constant
- Option B. Increases
- Option C. Decreases
- Option D. None of these

Question: 6. A certain refrigerating system has a normal operating suction pressure of 10 kg/cm gauge and condensing pressure of about 67 kg/cm. The refrigerant used is

- Option A. Ammonia
- Option B. Carbon dioxide
- Option C. Freon
- Option D. Brine

Question: 7. Choose the correct statement

Option A. A refrigerant should have low latent heat

Option B. If operating temperature of system is low, then refrigerant with low boiling point should be used

Option C. Pre-cooling and sub-cooling of refrigerant are same

Option D. Superheat and sensible heat of a refrigerant are same

Question: 8. The relative humidity lines on a psychrometric chart are

Option A. Vertical and uniformly spaced

Option B. Horizontal and uniformly spaced

Option C. Horizontal and non-uniformly spaced

Option D. Curved lines

Question: 9. Moisture in Freon refrigeration system causes

Option A. Ineffective refrigeration

Option B. High power consumption

Option C. Freezing automatic regulating valve

Option D. Corrosion of whole system

Question: 10. Which of the following statement is correct?

Option A. The human body can lose heat even if its temperature is less than the atmospheric temperature.

Option B. The increase in air movement increases the evaporation from the human body.

Option C. The warm air increases the rate of radiation of heat from the human body.

Option D. Both (A) and (B)

Question: 11. The C.O.P. of an absorption type refrigerator is given by (where T_1 = Temperature at which the working substance receives heat, T_2 = Temperature of cooling water, and T_3 = Evaporator temperature)

Option A. $\frac{[T_1 (T_2 - T_3)]}{[T_3 (T_1 - T_2)]}$

Option B. $\frac{[T_3 (T_1 - T_2)]}{[T_1 (T_2 - T_3)]}$

Option C. $\frac{[T_1 (T_1 - T_2)]}{[T_3 (T_2 - T_3)]}$

Option D. $\frac{[T_3 (T_2 - T_3)]}{[T_1 (T_1 - T_2)]}$

Question: 12. The operating pressure for refrigerating units using R-12 as a refrigerant is

Option A. 2 bar

Option B. 8 bar

Option C. 15 bar

Option D. 30 bar

Question: 13. The Freon group of refrigerants are

Option A. Halocarbon refrigerants

Option B. Zoetrope refrigerants

Option C. Inorganic refrigerants

Option D. Hydrocarbon refrigerants

Question: 14. The coefficient of performance of Heat Pump is always _____ one.

- Option A. Equal to
- Option B. Less than
- Option C. Greater than
- Option D. None of these

Question: 15. During humidification process, _____ increases.

- Option A. Wet bulb temperature
- Option B. Relative humidity
- Option C. Dry bulb temperature
- Option D. Specific humidity

Question: 16. Condensing temperature in a refrigerator is the temperature

- Option A. Of cooling medium
- Option B. Of freezing zone
- Option C. Of evaporator
- Option D. At which refrigerant gas becomes liquid

Question: 17. The coefficient of performance is the ratio of the refrigerant effect to the

- Option A. Heat of compression
- Option B. Work done by compressor
- Option C. Enthalpy increase in compressor
- Option D. All of the above

Question: 18. In vapour compression cycle, the condition of refrigerant is very wet vapour

- Option A. After passing through the condenser
- Option B. Before passing through the condenser
- Option C. After passing through the expansion or throttle valve
- Option D. Before entering the compressor

Question: 19. If a gas is to be liquefied, its temperature must be

- Option A. Increased to a value above its critical temperature
- Option B. Reduced to a value below its critical temperature
- Option C. Equal to critical temperature
- Option D. None of the above

Question: 20. The bypass factor, in case of sensible cooling of air, is given by (where td_1 = Dry bulb temperature of air entering the cooling coil, td_2 = Dry bulb temperature of air leaving the cooling coil, and td_3 = Dry bulb temperature of the cooling coil)

- Option A. $(td_1 - td_3)/(td_2 - td_3)$

Option B. $(t_{d2} - t_{d3}) / (t_{d1} - t_{d3})$

Option C. $(t_{d3} - t_{d1}) / (t_{d2} - t_{d3})$

Option D. $(t_{d3} - t_{d2}) / (t_{d1} - t_{d3})$

Question: 21. The sub-cooling in a refrigeration cycle

Option A. Does not alter C.O.P.

Option B. Increases C.O.P.

Option C. Decreases C.O.P.

Option D. None of these

Question: 22. The process of under-cooling is generally brought about by

Option A. Circulating more quantity of cooling water through the condenser

Option B. Using water colder than the main circulating water

Option C. Employing a heat exchanger

Option D. Any one of the above

Question: 23. In a psychrometric process, the sensible heat added is 30 kJ/s and the latent heat added is 20 kJ/s. The sensible heat factor for the process will be

Option A. 0.3

Option B. 0.6

Option C. 0.67

Option D. 1.5

Question: 24. Carbon dioxide is

Option A. Colourless

Option B. Odourless

Option C. Non-flammable

Option D. All of these

Question: 25. Pressure of water vapour is given by

Option A. $0.622 P_v / (P_b - P_v)$

Option B. $\mu / [1 - (1 - \mu) (P_s / P_b)]$

Option C. $[P_v (P_b - P_d)] / [P_d (P_b - P_v)]$

Option D. None of these

Question: 26. Which of the following refrigerant is highly toxic and flammable?

Option A. Ammonia

Option B. Carbon dioxide

Option C. Sulphur dioxide

Option D. R-12

Question: 27. A standard ice point temperature corresponds to the temperature of

Option A. Water at 0°C

Option B. Ice at 4°C

Option C. Solid and dry ice

Option D. Mixture of ice and water under equilibrium conditions

Question: 28. The temperature of air recorded by a thermometer, when its bulb is surrounded by a wet cloth exposed to the air, is called

Option A. Wet bulb temperature

Option B. Dry bulb temperature

Option C. Dew point temperature

Option D. None of these

Question: 29. Highest pressure encountered in a refrigeration system should be

Option A. Critical pressure of refrigerant

Option B. Much below critical pressure

Option C. Much above critical pressure

Option D. Near critical pressure

Question: 30. In vapour compression refrigeration system, refrigerant occurs as liquid between

Option A. Condenser and expansion valve

Option B. Compressor and evaporator

Option C. Expansion valve and evaporator

Option D. Compressor and condenser

Answer Sheet

1	B	
2	B	
3	A	
4	C	
5	A	
6	B	
7	B	
8	D	
9	C	
10	D	
11	B	
12	B	
13	A	
14	C	
15	B	
16	D	
17	D	
18	D	
19	C	
20	B	
21	B	
22	D	
23	B	
24	D	
25	D	
26	A	
27	D	
28	A	
29	B	
30	C	